

Managed Behavioral Health Care: A Medicaid Carve-Out For Youth

Carving out behavioral health care services for kids under Medicaid can be successful, North Carolina found. What can other states learn?

by Barbara J. Burns, Sarah E. Teagle, Michael Schwartz, Adrian Angold, and Adam Holtzman

ABSTRACT: This DataWatch assesses the impact of a public sector-managed Medicaid mental health carve-out pilot for North Carolina youth. Access to, volume of, and costs of mental health/substance abuse services are reported. We compared a pilot managed care program, with an incentive to shift hospital use and costs to community-based services, with usual fee-for-service Medicaid. Aggregate data from Medicaid claims for youth (from birth to age seventeen) statewide are reported for five years. We found dramatic reductions in use of inpatient care, with a shift to intensive outpatient services, and less growth in mental health costs. These findings demonstrate that public sector-managed care can be viable and more efficient than a fee-for-service model.

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MOST CHILDREN AND ADOLESCENTS who need mental health/substance abuse (MH/SA) services do not receive them.¹ Between 14 and 24 percent of youth have a diagnosable psychiatric disorder, depending on how service needs and target populations are defined.² In contrast, from 1.7 percent to 8 percent of youth use any specialty mental health services in a given year.³

The introduction of managed behavioral health care under parity is expected to narrow the gap between need for and use of services, especially for youth, and the few studies available have confirmed this expectation.⁴ However, some fear that the expected improve-

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ments in access will be accompanied by rising costs. The only projection for the possible impact of parity-induced changes on cost of MH/SA services for youth is provided by Roland Sturm, who simulated the impact of removing coverage limits in twenty-four private-sector managed care carve-out plans.⁵ Sturm found cost increases to be an estimated one dollar per enrollee per year.

To fill in the gaps in information on the impact of expanded benefits and managed care on providing MH/SA services to children and youth, we examine here a recent system change in North Carolina. Even in the public sector the majority of behavioral carve-outs under Medicaid waivers have been managed privately. However, some experience with public sector-managed care is beginning to emerge. **More than half (57 percent) of state Medicaid MH/SA carve-out programs are publicly managed.**⁶ North Carolina is one of the few states to have a monitoring system in place to track the impact of these changes.

The North Carolina experience. North Carolina's program was implemented in early 1994 as a pilot study (Carolina Alternatives, or CA) under a 1915(b) waiver in ten of the forty Area Mental Health Programs (APs). As in many states, the CA pilot program was developed because of concern over shrinking government budgets and increasing public-sector health costs, particularly over accelerating growth in inpatient service use in the late 1980s, especially among the young.⁷ In response to these concerns, the state subcontracted in 1990 with a private managed care firm to implement inpatient utilization review. Although this reduced inpatient service use, real change was curtailed by (1) the lack of a negotiation process for determining Medicaid per diem payments; (2) limited community-based alternatives to inpatient services; and (3) lack of mechanisms to redirect savings to more-appropriate forms of service. To overcome these weaknesses and, at the same time, to ensure appropriate, individualized, high-quality care in the least restrictive setting, the state implemented Carolina Alternatives as a pilot program in the ten APs with the highest historical inpatient service costs.⁸

For CA, the APs were the single portal of entry into mental health services (including inpatient care), and they only bore full financial risk for inpatient services only for the first two years. Thus, an incentive was created to increase community-based services with savings from the inpatient capitation. APs were at full risk for all care by year three, creating three main time periods of interest: (1) pre-CA (1992), usual fee-for-service (FFS) care; (2) the partial-risk phase (1994 and 1995), with APs at risk for inpatient care only; and (3) the full-risk phase (1996 and 1997), with APs at risk for both inpatient and outpatient care (Exhibit 1).

EXHIBIT 1**History And Comparison Of Changes In Financing And Characteristics Of Public Sector-Capitated and Fee-For-Service (FFS) Medicaid, North Carolina, 1992-1997**

Study phase	Public sector-capitated Medicaid	FFS Medicaid
Pre-Carolina Alternatives (CA) (1992)^a	FFS (inpatient and outpatient) Utilization review (UR) of inpatient care only	FFS (inpatient and outpatient) Utilization review (UR) of inpatient care only
Partial risk (1994 and 1995)	Capitation with cost reimbursement for community-based care Capitation for inpatient care Cost savings due to reductions in inpatient care were available for community-based services UR of inpatient care only Group home and therapeutic foster care became new services in 1994	FFS for community-based services FFS for inpatient care Cost savings due to reductions in inpatient care were not available for community-based services UR of inpatient care only Group home and therapeutic foster care became new services in 1994
Full risk (1996 and 1997)	Single capitation for community-base services and inpatient care UR of inpatient care and community-based services Funding reduced in 1996; Area Programs were allowed to keep savings for management costs and alternative services	FFS for community-based services and inpatient care UR of inpatient care only Inpatient savings due to reduction in utilization were not available to Area Programs; preparation for managed care before waiver

SOURCE: M. Schwartz and A. Holtzman, North Carolina Department of Health and Human Resources, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services.

^a During 1993 advances were made available to the CA Area Programs to prepare for the pilot program (that is, to hire staff). Therefore, data for 1993 were omitted because they do not reflect the pre-CA experience.

Design And Methods

The purpose of this DataWatch is to track MH/SA service use and costs by youth on Medicaid before and after the implementation of a managed care carve-out demonstration. This study is based on longitudinal claims data on service use and costs from ten pilot CA APs and thirty non-CA APs from January 1992 through December 1997. Specifically, we address the extent to which public sector-managed and capitated MH/SA care affects service access, intensity, and costs relative to FFS comparison sites.

Study sample. Approximately 16.9 percent of North Carolina youth live in poverty, and approximately 27 percent are covered by Medicaid. The ten pilot programs were responsible for approximately 132,600 Medicaid-eligible youth in 1997; the thirty comparison sites, approximately 338,800 youth. Over the study period the mean number of eligible persons per month increased by 36 percent at the CA sites and 33 percent at the non-CA sites.

Data source. We analyzed five years (1992 and 1994-1997) of information on MH/SA service use and costs for youth (from birth to age seventeen) on Medicaid. Data from 1992 were used as the base for calculating the inpatient capitation rates during the first two

years of the program. The claims data include all reimbursements for MH/SA hospitalizations and emergency room visits, as well as outpatient MH/SA services provided by psychiatrists, APs, and other MH/SA providers. Data for both CA and non-CA APs in 1992 and for non-CA APs in subsequent years were collected from Medicaid-paid claims. Data from CA APs for 1994–1997 consisted of aggregate reports submitted quarterly through 1996 and monthly thereafter by the APs to the state. The data were likely to be complete, given the incentive for CA sites to establish outpatient capitation rates based on their service-use histories during the first two years of the pilot program and to justify capitation rates thereafter. Across non-CA sites, Medicaid reimbursement for services provided was contingent upon submission of claims data.

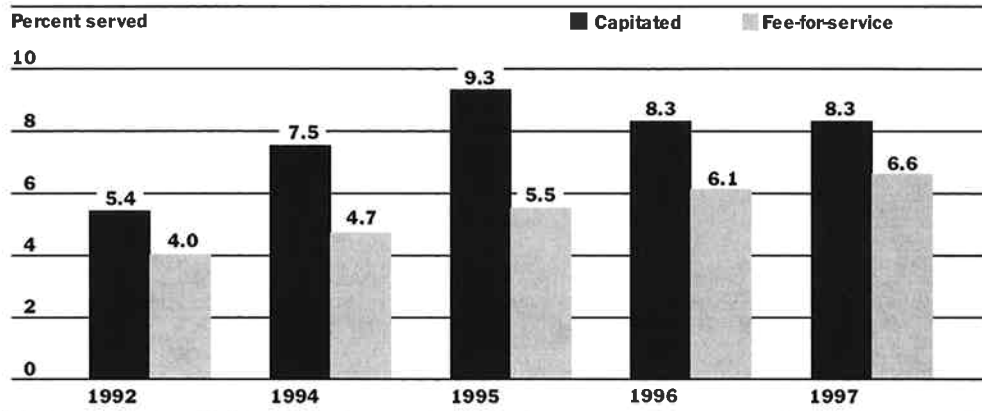
Variables and analysis. Access to care was defined as use of any type of MH/SA service in three levels of care. Inpatient care included days in a psychiatric hospital, psychiatric unit of a general hospital, medical inpatient unit of a general hospital, and drug/alcohol detoxification. Hospital alternatives included days in a group home/intensive therapeutic foster care, traditional therapeutic foster care, partial hospitalization or day treatment, and wraparound care (reported in hours). Outpatient care included hours of traditional outpatient therapy and case management.

Service intensity (that is, the average number of units of service per user per year) was defined in the state data as the annual number of inpatient, group home/intensive therapeutic foster care, traditional therapeutic foster care, and partial hospitalization/day treatment days and of outpatient, case management, and wraparound hours. Outpatient and case management hours roughly correspond to visits in other studies. Service-use data are presented year by year for the CA and non-CA APs, including one year of pre-CA (1992) and four years of managed care (1994–1997). Because the sample included the entire population of Medicaid-eligible persons in the study area, statistical testing was not appropriate.

Results: Access And Volume Of Service Use

Across CA sites, the rate of service use increased about 73 percent between the pre-CA (1992) and the partial-risk phases (1994–1995); it stabilized during the full-risk phase (Exhibit 2). Over the five-year period the percentage of youth served increased at a rate of 54.9 percent. The decrease and leveling off in the use of services for CA sites during full risk corresponds to reductions in capitation rates. The percentage served in the non-CA sites remained lower than in the CA sites each year but also increased linearly over time. The linear increase may reflect the non-CA sites' anticipation of CA

EXHIBIT 2
Annual Rates Of Mental Health Service Use For Youth (Ages 0-17) Under Public Sector-Capitated Medicaid And Fee-For-Service Medicaid



SOURCE: North Carolina Department of Health and Human Resources, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services.

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expansion statewide, as well as increased Medicaid billing.

Inpatient. As expected, the inpatient rates across CA sites steadily declined from 0.78 percent (pre-CA) to 0.55 percent of eligibles (full-risk phase), approximately a one-third decrease (Exhibit 3). In contrast, inpatient use in non-CA sites was lower than that in CA sites at baseline but remained unchanged over most of the study period. The average number of inpatient days across CA sites also declined (by 58 percent) between the pre-CA and full-risk phases. The average number of hospital days per hospitalized child decreased from 49.6 days (pre-CA) to 21.0 days (full risk). Similar declines also were observed among non-CA sites, although they occurred at nearly half the rate of decline for CA sites. CA sites started 26 percent higher than non-CA sites in 1992 but ended 30 percent lower than non-CA sites in 1997.

Hospital alternatives. Access to hospital alternatives was low at first across both groups. Between the partial- and full-risk phases, however, substantial increases were observed, consistent with the reduction in inpatient services. Change over time in use among the CA sites compared with the non-CA sites differed by type of service and amount spent. For example, use of group homes and intensive therapeutic foster care increased by 88 percent in the CA sites during the partial-risk phase.⁹ In 1996, when the CA sites assumed full risk for all costs, use of these alternatives declined by about 15 percent, to 0.51 percent. In contrast, in non-CA sites overall use of these alternatives was much lower than in CA sites at first, but change was linear over time, with use increasing from 0.12 percent in 1994 to 0.47 percent in 1997. Use of these alternatives and average

EXHIBIT 3
Annual Rates Of Mental Health And Substance Abuse Service Use And Volume For Youth (Ages 0-17) Under Public Sector-Capitated Medicaid And Fee-For-Service (FFS) Medicaid, North Carolina, 1992-1997

	Before CA		Partial-risk phase				Full-risk phase			
	1992		1994		1995		1996		1997	
	Capitated sites	FFS sites	Capitated sites	FFS sites	Capitated sites	FFS sites	Capitated sites	FFS sites	Capitated sites	FFS sites
Inpatient										
Percent served	0.78%	0.64%	0.60%	0.66%	0.58%	0.64%	0.49%	0.64%	0.55%	0.62%
Mean days per user	49.6	41.5	28.1	38.8	26.4	32.4	23.9	28.3	21.0	28.3
Hospital alternatives										
Group home/intensive TFC										
Percent served	- ^a	- ^a	0.32%	0.12%	0.60%	0.29%	0.51%	0.39%	0.51%	0.47%
Mean days per user	- ^a	- ^a	98.9	249.1	134.5	158.6	116.1	141.2	140.9	142.5
Traditional TFC										
Percent served	- ^a	- ^a	0.20%	0.03%	0.31%	0.06%	0.25%	0.06%	0.18%	0.07%
Mean days per user	- ^a	- ^a	81.1	82.6	120.9	106.1	95.2	133.2	142.7	126.7
Partial hospital/day treatment										
Percent served	0.19%	0.09%	0.28%	0.11%	0.38%	0.13%	0.35%	0.13%	0.33%	0.16%
Mean days per user ^b	49.6	38.8	45.6	42.2	49.0	44.4	46.0	60.9	43.2	50.3
Wraparound										
Percent served ^c	0.16%	0.09%	1.98%	0.18%	2.44%	0.76%	1.75%	1.21%	1.74%	1.55%
Mean days per user	32.6	45.3	53.3	57.8	90.3	113.5	67.1	186.6	85.9	218.3
Outpatient										
Percent served	5.16%	3.88%	7.10%	4.59%	8.98%	5.40%	7.76%	5.88%	7.73%	6.39%
Mean hours per user	10.2	11.1	10.5	10.2	11.3	9.5	12.3	8.9	13.1	9.1
Case management										
Percent served	1.02%	0.70%	3.05%	0.86%	3.69%	1.40%	3.63%	1.82%	3.75%	2.25%
Mean hours per user	19.2	16.1	12.1	15.0	14.5	12.6	14.8	13.3	16.4	13.6

SOURCE: North Carolina Department of Health and Human Resources, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services.

NOTES: CA is Carolina Alternatives. TFC is therapeutic foster care.

^a Not covered by Medicaid in 1992.

^b Volume estimates for partial hospitalization/day treatment are reported to the state in hours. To facilitate comparisons across types of hospital alternatives, hours were converted to days by assuming that 5.5 hours equal one day.

^c Includes periodic high-risk interventions and client-behavior interventions.

days per user per year were about the same in 1997 for both groups.

In contrast, use of wraparound services increased steadily between the pre-CA and partial-risk phases in CA sites (0.16 percent to 2.44 percent), followed by a decline of 29 percent between 1995 and 1997, associated with a reduction in the capitation rate. In non-CA sites the rate of use started lower than in CA sites (0.09 percent) but increased linearly—by a factor of seventeen, as compared with a factor of eleven in CA sites. The pattern for amount of use corresponds to the rate of use, which suggests that non-CA sites were

increasing costs by providing more services that were expensive, in anticipation of CA.

Outpatient services. Use of traditional outpatient services in CA sites increased by 74 percent between the transition from pre-CA to the assumption of partial risk, then declined by 14 percent and leveled off in the full-risk phase. In contrast, in non-CA sites use was 25–40 percent lower than in CA sites each year during the pre-CA and partial-risk years. Use in non-CA sites continued to increase, although it was still lower than in CA sites in 1997. CA sites also consistently provided more treatment hours per user than did non-CA sites in the partial- and full-risk phases.

The percentage of youth using case management in CA sites grew from 1.02 percent before CA to 3.75 percent during full risk, a more than threefold increase. Although the amount of use fluctuated, the annual mean was 16.4 hours by 1997. In non-CA sites the percentage of youth using case management was lower than among CA sites initially; the percentage rose over time, but the rate of service use remained about half that observed in CA sites. Case management hours were lower across the five years.

Results: Service Costs

The total cost of MH/SA services, mean cost per eligible, and mean cost per youth served among CA sites increased dramatically between the base year and the assumption of partial risk (1994–1995), followed by a substantial decline in the full-risk phase (Exhibit 4). Overall, total costs tripled over the study period, increasing from \$15.9 million to \$52.9 million across the ten CA sites. Across the thirty comparison sites, however, total costs quadrupled, from \$31.8 million to \$132.1 million. By 1997 the key difference between the CA and FFS sites was that total costs declined in CA sites, whereas costs in non-CA sites continued to climb. The cost per eligible person was roughly the same for youth in managed care and FFS programs, while the penetration rates and intensity of service use were consistently higher on the CA side. Further, the cost per youth served was lower in CA sites than in FFS sites in the full-risk years by \$336 in 1996 and \$1,126 in 1997. The latter shift in costs was achieved with little reduction in access and intensity.

Shifts in the percentage of total dollars by level of care between 1992 and 1997 reflect the overall shifts observed in service use (Exhibits 5 and 6). The percentage of total costs for inpatient services among managed Medicaid sites declined 73 percent between pre-CA and the first partial-risk year and then another 47 percent between the two years of partial risk, stabilizing by the full-risk phase. The overall proportion of dollars spent on inpatient services was

EXHIBIT 4

Annual Costs Of Mental Health And Substance Abuse Services Use For Youth (Ages 0-17) Under Public Sector-Capitated Medicaid And Fee-For-Service (FFS) Medicaid

	Before CA		Partial-risk phase				Full-risk phase			
	1992		1994		1995		1996		1997 ^a	
	Capitated sites	FFS sites	Capitated sites	FFS sites	Capitated sites	FFS sites	Capitated sites	FFS sites	Capitated sites	FFS sites
Total dollars (millions)	\$ 15.9	\$ 31.8	\$ 37.9	\$ 49.2	\$ 68.3	\$ 73.0	\$ 51.8	\$ 103.5	\$ 52.9	\$ 132.2
Cost per eligible per year	163.96	124.22	321.88	161.22	531.96	224.57	395.11	311.06	399.04	390.02
Cost per youth served	3,010	3,138	4,285	3,442	5,716	4,080	4,773	5,139	4,781	5,907

SOURCE: North Carolina Department of Health and Human Resources, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services.

NOTES: Capitation data are for ten Area Programs (APs) under California Alternatives (CA). Figures represent full capitation (federal, state, and local shares). FFS data are for thirty APs not under CA. Figures represent covered services (federal, state, and local shares).

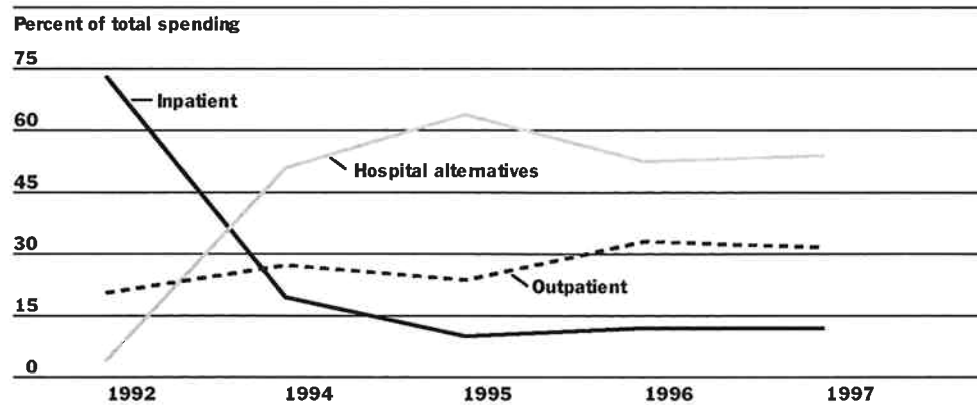
^a Data are for claims paid as of 30 September 1998.

73.9 percent of total costs at baseline but only 12.7 percent by 1997. Similarly, in non-CA sites inpatient costs accounted for 76.1 percent of the total costs in 1992 and decreased to 17.7 percent in 1997. In non-CA sites most of the change in the proportion of inpatient spending was due to large increases in spending on hospital alternatives. Inpatient dollars decreased only 3.3 percent during this period in non-CA sites but fell 50.1 percent in CA sites.

Total costs for alternative services increased rapidly between the base year and the partial-risk phase in CA sites, then decreased

EXHIBIT 5

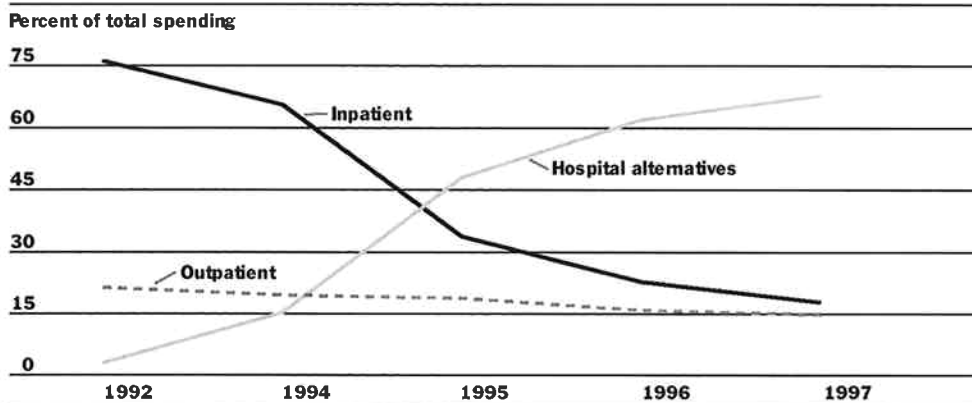
Proportion Of Mental Health And Substance Abuse Dollars, By Level Of Care, For Youth (Ages 0-17) Under Public Sector-Capitated Medicaid, North Carolina, 1992-1997



SOURCE: North Carolina Department of Health and Human Resources, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services.

EXHIBIT 6

Proportion Of Mental Health And Substance Abuse Dollars, By Level Of Care, For Youth (Ages 0-17) Under Fee-For-Service (FFS) Medicaid, North Carolina, 1992-1997



SOURCE: North Carolina Department of Health and Human Resources, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services.

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during the full-risk phase. Costs for hospital alternatives increased from 4.8 percent of total costs in the pre-CA phase to 64.9 percent by the second year of partial risk (in part, because several services were not covered before 1994), then decreased and stabilized at 54.8 percent. Similarly, in FFS sites costs for hospital alternatives increased from 2.9 percent at baseline to 67.6 percent by 1997. Although the proportion spent on hospital alternatives was greater than in the CA sites (after the capitation rate was reduced), the impact on reducing inpatient expenditures was less.

The proportion of costs for outpatient services across CA sites also increased, representing 21.3 percent of total costs at baseline and 32.5 percent by 1997 (a 53 percent increase). Among non-CA sites outpatient costs started at 21.0 percent and decreased steadily across the study period, falling to 14.7 percent in 1997.

Discussion And Policy Implications

This longitudinal examination of a public sector-managed Medicaid mental health care carve-out for youth reveals overall success in achieving its goals. The study showed that mental health services can be publicly managed at the local level from both utilization and cost perspectives. The distribution of service dollars shifted similarly and dramatically from the national and North Carolina baseline pattern of 70 percent institutional and 30 percent community to 13 percent (capitated) and 18 percent (FFS) for institutional care, with the remainder of both in community services for each condition.

Overall, North Carolina's public-sector approach to capitated managed care appears to offer a feasible alternative to FFS Medicaid.

“Elevated costs are most likely explained by the high level of need observed in Medicaid populations.”

The findings point to greater efficiency—that is, more youth served with reasonable intensity of care and at a lower cost per user—than under FFS. It is not known whether similar findings would result from for-profit managed care or an administrative services only (ASO) arrangement, for which a fee is charged for management without profit considerations. The findings of reduced institutional treatment and increased access to outpatient services parallel those in studies where for-profit companies and ASOs have managed the care.¹⁰ Although a broader array of services is being included in state health care reform, for-profit companies’ or ASOs’ experience with intensive alternatives to hospital for youth has, to our knowledge, not been evaluated.

Probably the most critical issue is public- and private-sector programs’ ability to sustain adequate community-based services to prevent the cycle of hospital or residential admissions and readmissions. Here, a fiscal incentive to substitute community-based care for hospital care was at least initially effective (during the two partial-risk years). On the FFS side, without the incentive, it was clear that increasing the capacity of hospital alternatives also was feasible, but without reducing institutional use. In contrast, the incentive achieved both aims—that is, it reduced hospital use and increased community-based care. However, once the incentive was removed and capitation rates fell, we found some deterioration in community-based services, which raises a concern about APs’ ability to sustain intensive community-based services.

Despite positive findings in North Carolina, the absolute level of costs may inhibit the spread of public sector-managed Medicaid to other states. Whether states or mental health centers will give sufficient priority to services for youth with severe emotional disorders and allocate sufficient resources is a concern.

In consideration of high access to hospital alternatives and outpatient mental health services and high volume of care across service types, the question becomes one of how to assess whether the costs were reasonable. Cost comparisons with other states with a child mental health carve-out are difficult, because only multiple rates based on severity categories have been reported.¹¹ A somewhat related study of mental health services for children, the Fort Bragg Demonstration Project—although not necessarily fully meeting criteria for managed care—shows costs per eligible comparable to CA

in 1997.¹² Neither the North Carolina pilot sites (\$33 per month) in 1997 nor Fort Bragg (\$32 per month) are in the ballpark of estimates for mental health costs in employed populations; for example, the estimate for state employees in Massachusetts was \$27 per month before the mental health carve-out but \$11 per month two years after implementation.¹³ Several explanations may account for the cost trends we observed.

Elevated costs are most likely explained by the high level of need observed in Medicaid populations. Very different rates of serious emotional disturbance were found among the youth sampled in the Great Smoky Mountains Study in North Carolina across insurance types: 22.2 percent of children in Medicaid met criteria for this condition, in contrast to only 8 percent of uninsured and 4 percent of privately insured youth.¹⁴ Second, the public sector's failure to manage use and costs might be a suspect, but the data show a steady reduction of inpatient use, cutbacks in more-expensive alternative care when full risk was assumed, and lower costs than in FFS sites. Third, a policy of relatively unlimited Medicaid support for mental health has been in place to make services accessible and comprehensive. Historically, use of expensive out-of-area and out-of-state residential care has kept the cost high; this was not observed.

THE PUBLIC SECTOR HAS SERVED as the safety net for youth in poverty and for families whose resources are quickly drained as a result of limited insurance coverage. With public-sector management, despite what may seem to be high costs for a high-need population, the difference between the capitation rate and the cost of care can be invested in mental health services instead of profit.

The North Carolina model appears promising and worthy of further study. For example, when is the community-service capacity sufficient to move into full capitation? How does the capitation rate function as an incentive to achieve the specified service-provision aims? How much of an incentive is needed, and for how long, to prevent youth most in need of treatment from being either neglected entirely or underserved? It is critical to know the extent to which the incentives in a public sector-managed care model are sufficient to increase service use for underserved youth, particularly in rural areas or for youth belonging to minority racial/ethnic groups.

The findings from this study, from a parity perspective, demonstrate that public sector-managed care can provide policymakers with a realistic alternative to a fee-for-service approach. This also may encourage more efficient and appropriate use of mental health resources for youth.

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8. Carolina Alternatives was implemented by the Division of Medical Assistance, in conjunction with the Child and Family Services Section of the Division of Mental Health, Developmental Disabilities, and Substance Abuse Services.
9. Data were available only for the partial- and full-risk phases because these residential services were not covered by Medicaid until 1994.
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